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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/887,848

06/22/2001

Robert C. Newman JR.

P99-16

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12/02/2004

Patent Department
Lutron Electronics Company, Inc.
7200 Suter Road
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EXAMINER

LEE, WILSON

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/887,848

Applicant(s)

NEWMAN ET AL.

Examiner

Wilson Lee

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14, 15 and 17-36 is/are allowed.
- 6) ☒ Claim(s) 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections – 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Shackle et al. (5,539,281).

Regarding Claim 16, Shackle discloses an electronic ballast for driving a gas discharge lamp, the ballast including a valley-fill circuit including a bus capacitor (85), the ballast having integral over-voltage protection (See col. 7, lines 17-68 and Figure 4. Q7, Q8 render over-voltage protection for capacitor 85) for the bus capacitor, the ballast comprising:

- a rectifier (17);
- an inverter (Q9 and Q10, or 15) for producing a high-frequency alternating current voltage for driving the gas discharge lamp (73 or 10); and
- the valley-fill circuit connected between said rectifier (17) and the inverter (Q9 and Q10, or 15), said valley-fill circuit including a buck converter (12, 52) (See Col. 5, lines 62-65 and Figure 2) connected between an output of said rectifier (17) and an input of the inverter (Q9 and Q10, or 15) (See Figures 1, 4 and 5).

Allowable subject matter

Claims 14, 15, 17-36 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art neither discloses nor suggests the following limitations, in the combination of the remaining elements disclosed in the independent claims:

a means for varying said duty cycle D responsive to said bus voltage to cause said energy storage device to draw more current from said AC power supply around the peak of each half-cycle of said bus voltage and to cause said energy storage device to draw less current from said AC power supply around the trough of each half-cycle of said bus voltage such as required by claim 14;

a cat ear power supply for supplying power to the control circuit, said power supply adapted to draw power from the supply of sinusoidal alternating current power only during a predetermined portion of each half-cycle of the sinusoidal alternating current power such as required by claim 17;

a valley-fill circuit for receiving the rectified direct current bus voltage and maintaining the bus voltage above a predetermined minimum voltage, the valley-till circuit including an energy storage element, an impedance and a switch, and the energy storage element adapted to be connected between said bus voltage and a circuit common by means of the impedance when the switch is in a first predetermined conductive state so as to store energy such as required by claim 25;

a power supply operatively connected to draw power from said supply of sinusoidal alternating current power, said power supply further operatively connected to supply power to said control circuit, said power supply being the sole source of power for said control circuit such as required by claim 32;

the steps of providing a power supply in said ballast for drawing current from said source of sinusoidal alternating current power during a predetermined portion of each half-cycle of said sinusoidal alternating current power; causing said power supply to draw said current from said source of sinusoidal alternating current power during said predetermined portion of each half-cycle of said sinusoidal alternating current power such as required by claim 34;

varying the conduction of the first controllably device in a predetermined manner within each said half-cycle, so that the energy storing device draws more current from the AC supply during the middle portion of each said half-cycle, and less current from the AC supply during the beginning and ending portions of each said half-cycle such as required by claim 35;

the steps of within each half-cycle of the AC power supply voltage, varying the conduction of the first controllably device in a predetermined manner so that the energy storing device draws more current from the AC supply during the middle portion of each said half-cycle, and less current from the AC supply during the beginning and ending portions of each said half-cycle such as required by claim 36.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments with respect to claims 14-36 have been considered but are moot in view of the new ground(s) of rejection. For clarification, claims 1-13 have been canceled.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Crouse et al. (5,925,990) discloses a buck converter, an inverter, a rectifier and a discharge lamp.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.

Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Wilson Lee", is written over a horizontal line.

Wilson Lee
Primary Examiner
U.S. Patent & Trademark Office

11/29/04